



(72) MAROCCO, NORBERT, CA

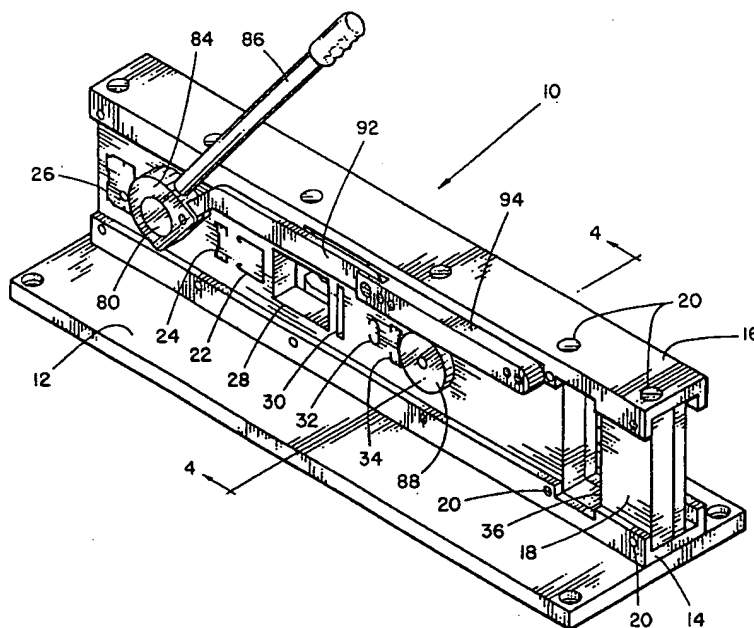
(73) SHADE-O-MATIC LIMITED, CA

(51) Int. Cl.<sup>7</sup> B23D 23/00

(30) 1999/07/23 (09/361,032) US

(54) DECOUPEUSE DE MULTI-STORES

(54) MULTI-BLIND TRIM MACHINE



(57) A multi-purpose blind cut-down apparatus for cutting a blind having a head rail and closure elements and having a blind holding plate with a blind component opening and a closure element opening for holding the head rail and closure elements in position for cutting, a closure element cutting bar moveable relative to the holding plate for cutting blind closure elements extending through the holding plate and having an opening, a cutting die plate adjacent to the cutting bar, carrying at least one cutting die for receiving the head rail and moveable relative to the holding plate.

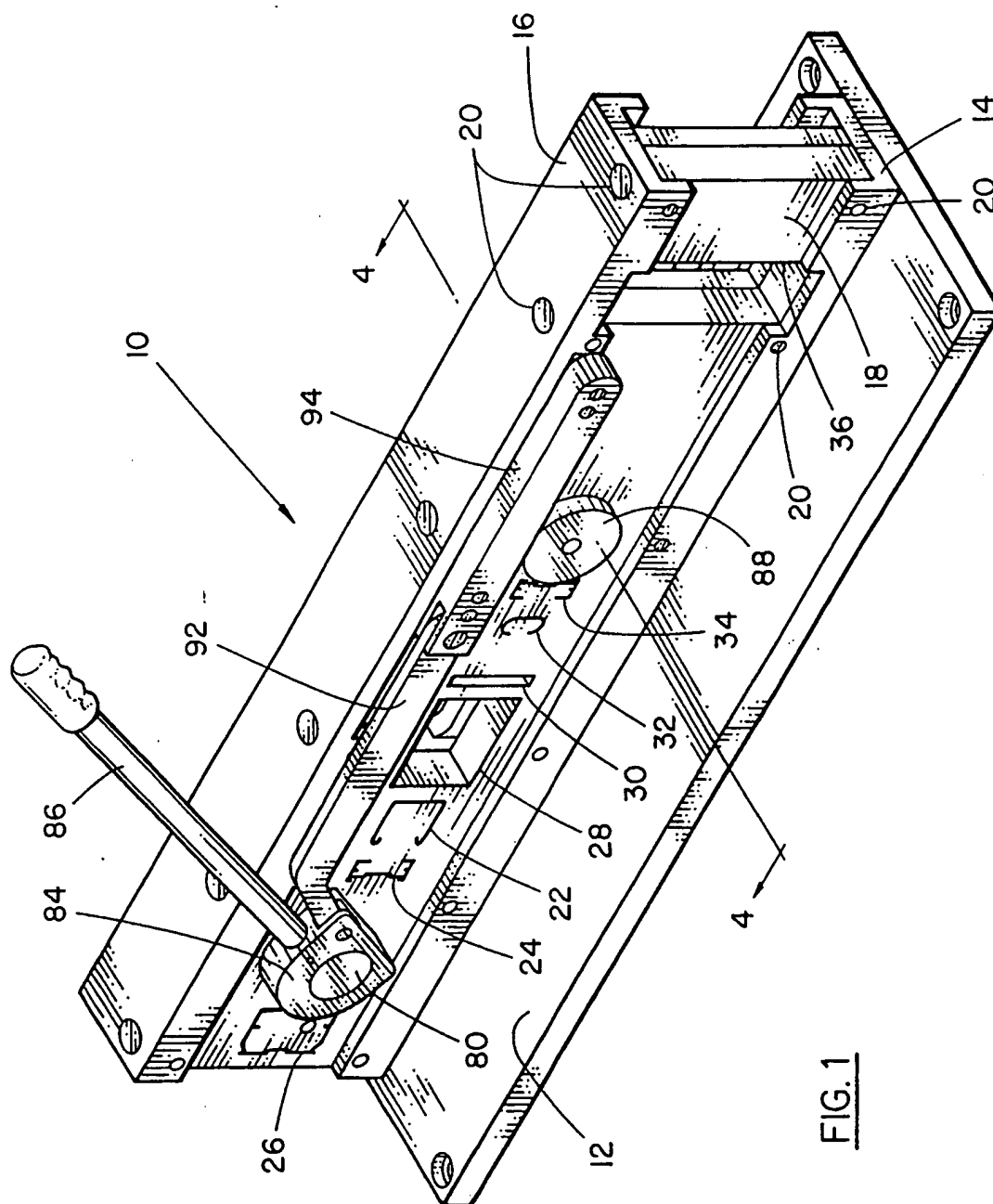
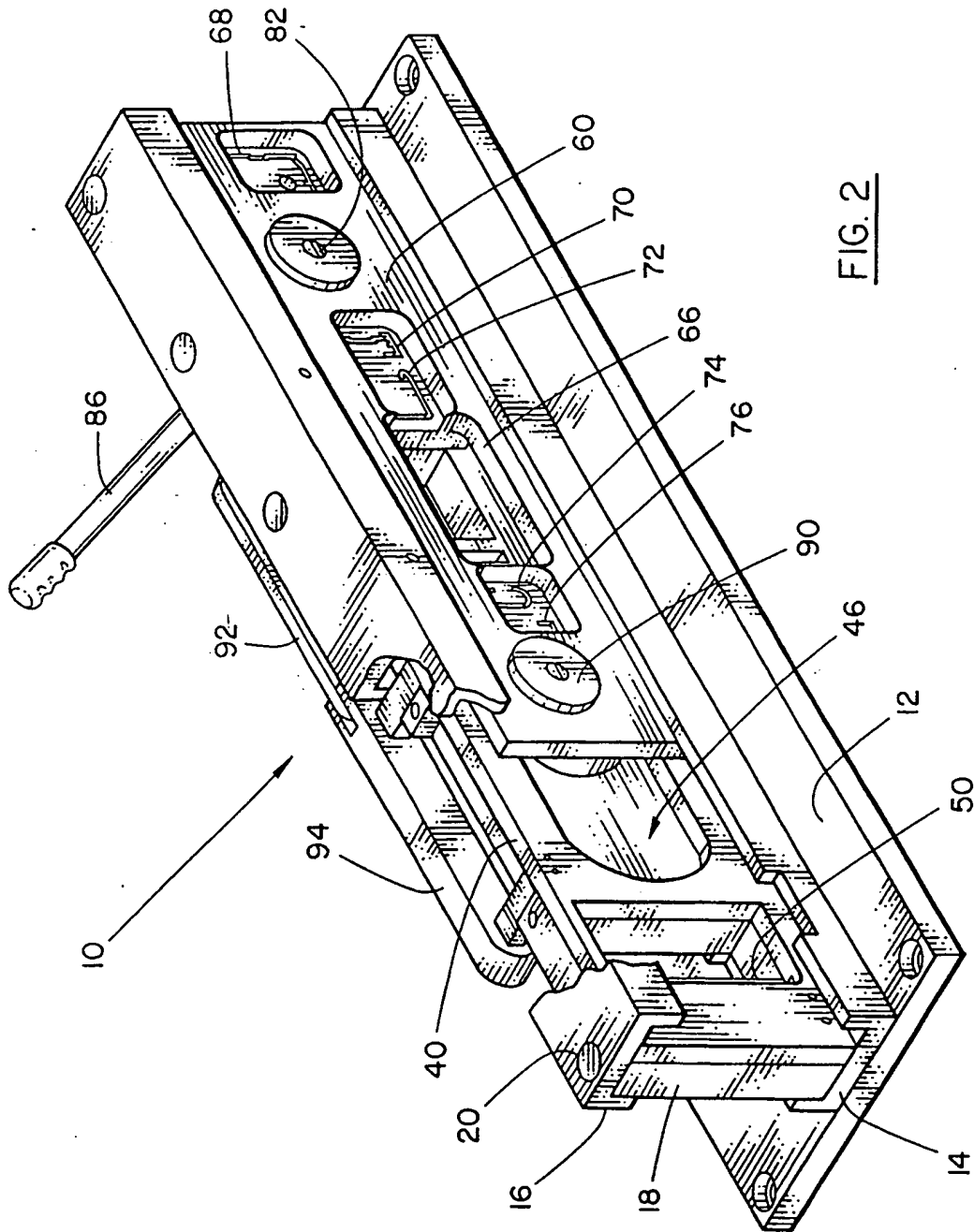


FIG. 1



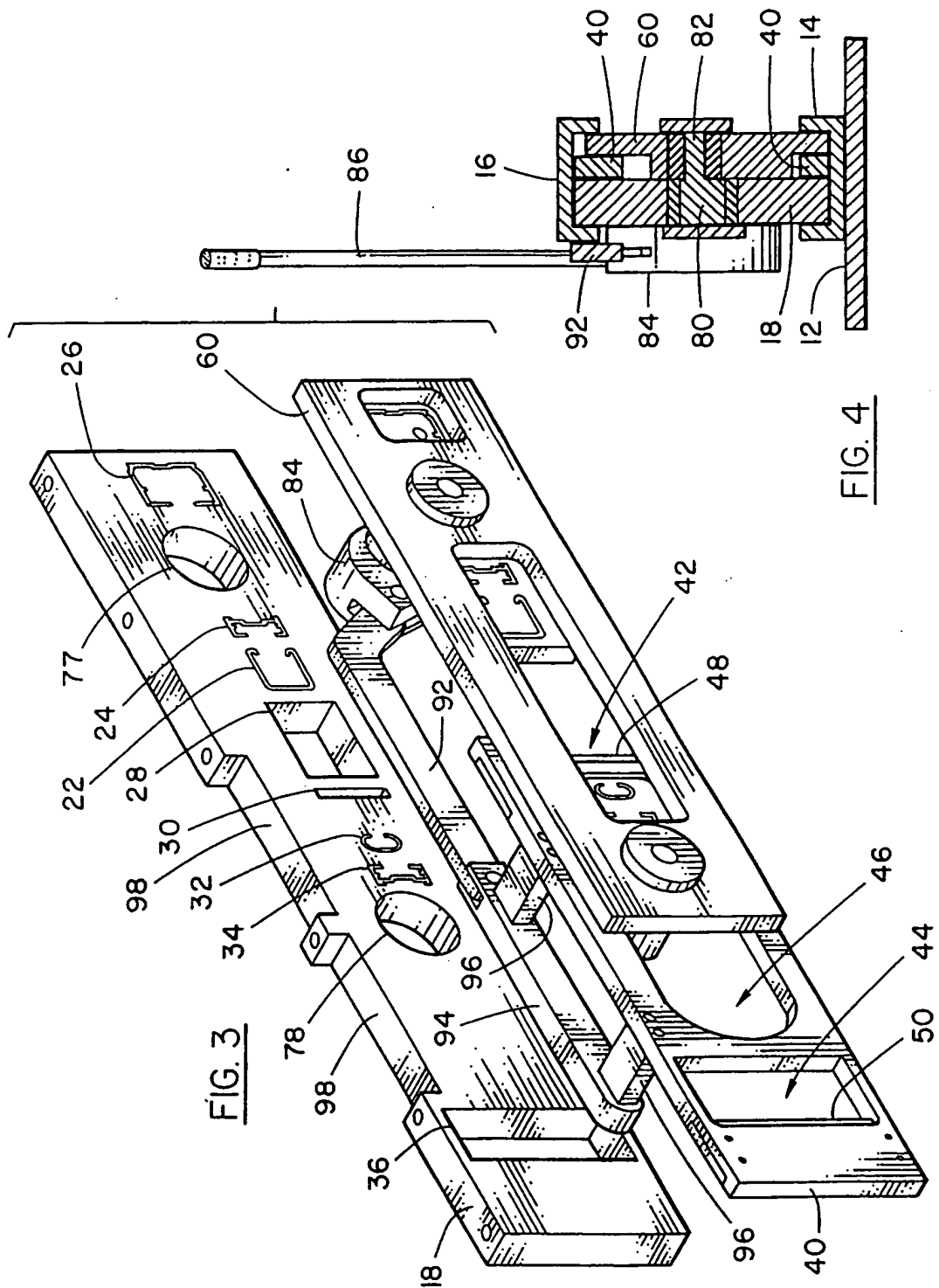


FIG. 4

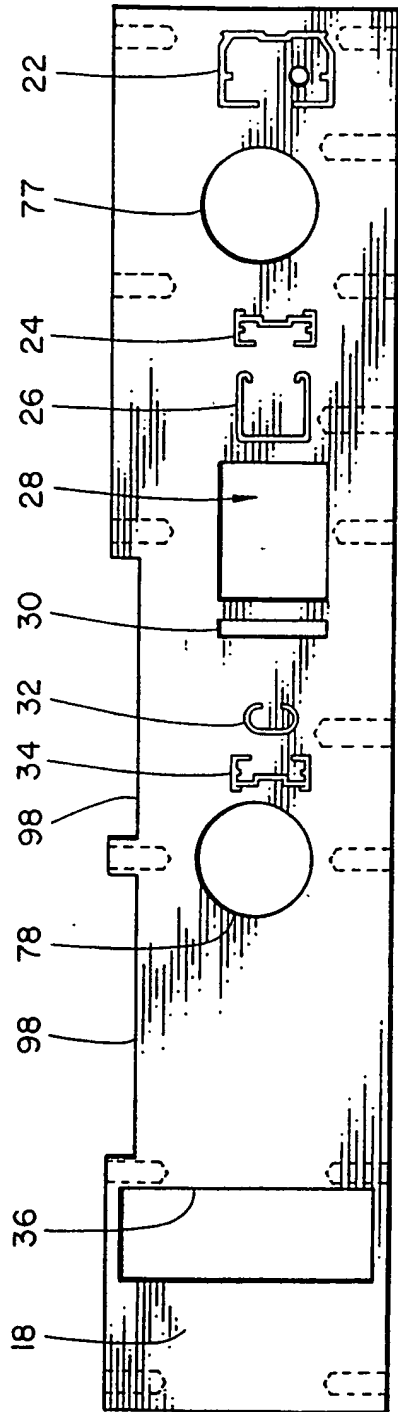


FIG. 5

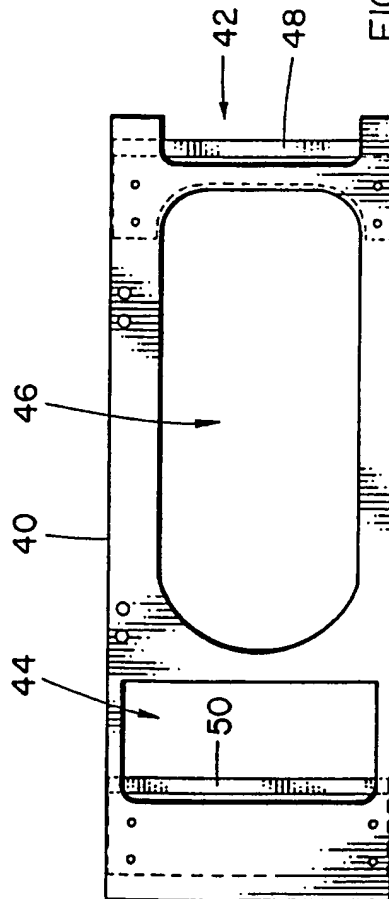


FIG. 6

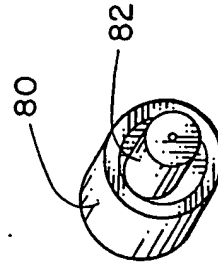


FIG. 7

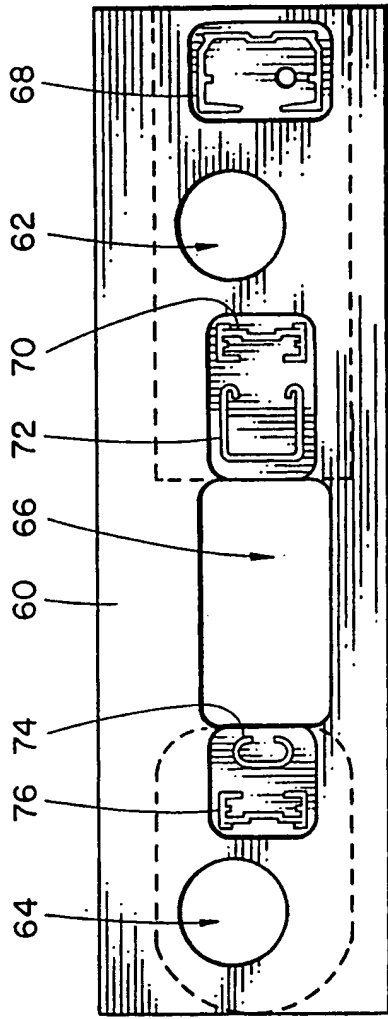


FIG. 8

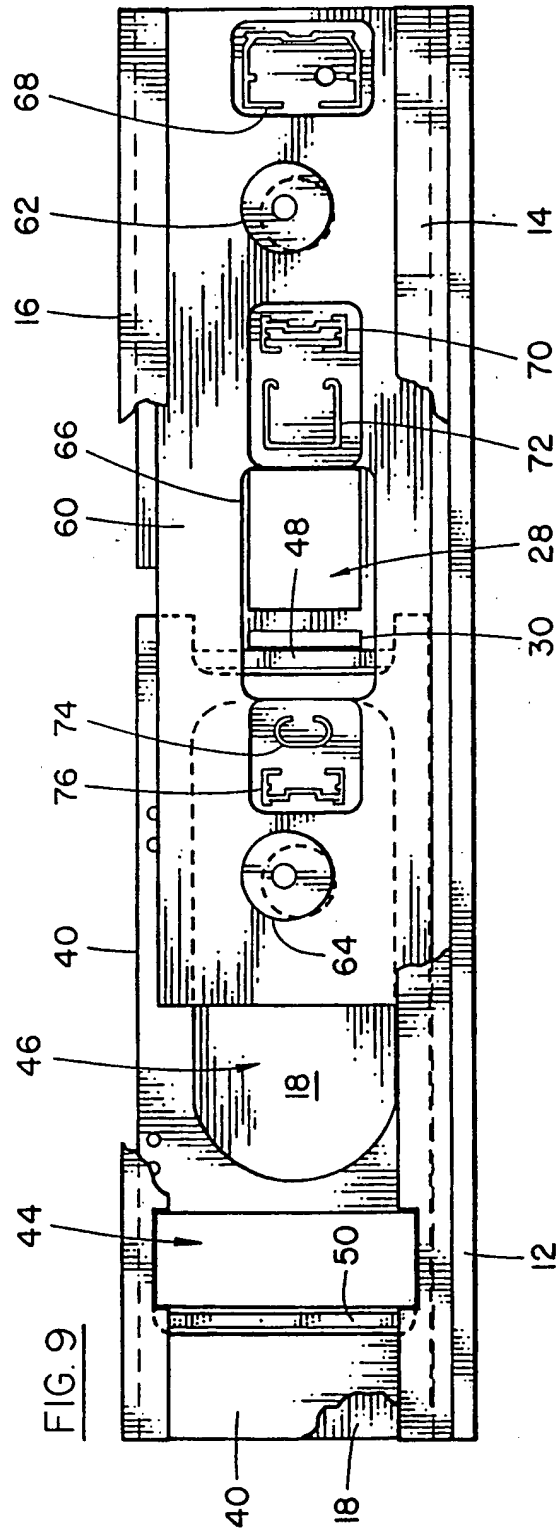


FIG. 9

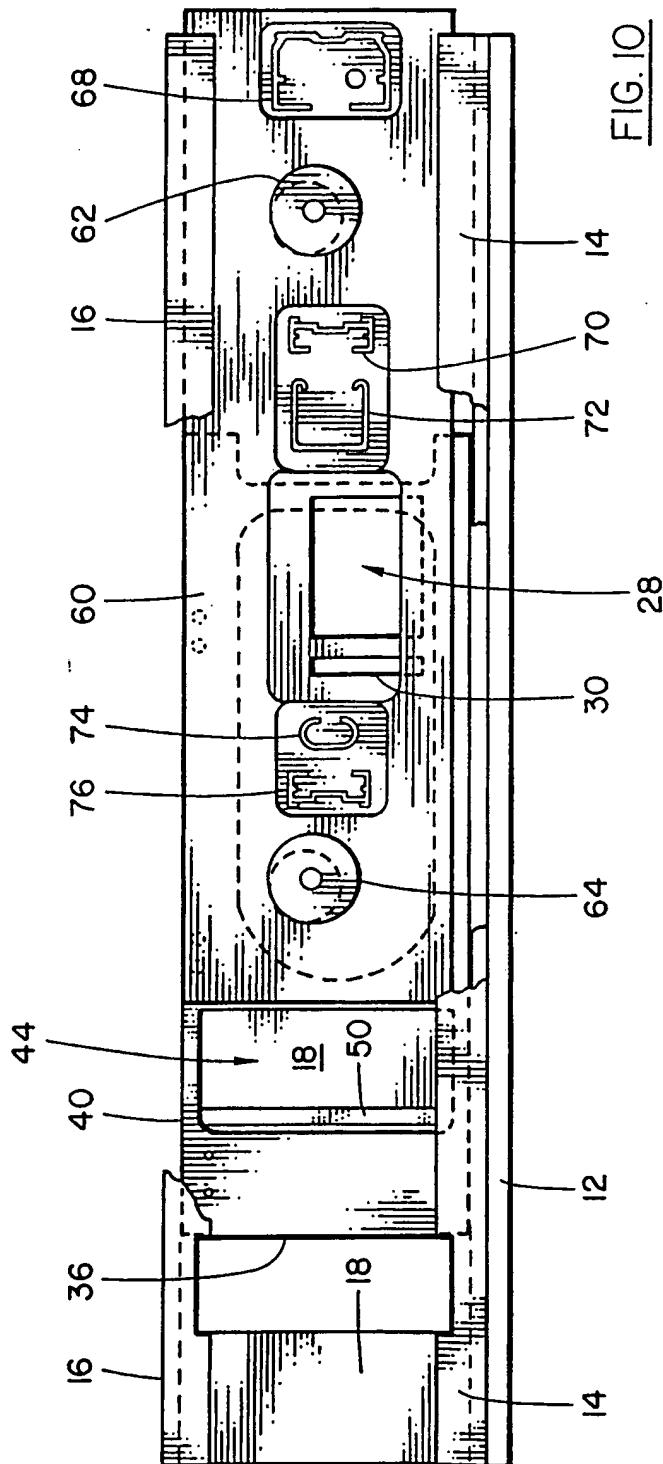
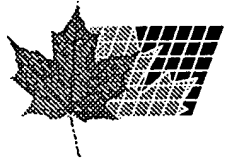


FIG. 10



(22) 2000/05/31

(43) 2001/01/23

(45) 2001/05/29

(72) MAROCCO, NORBERT, CA

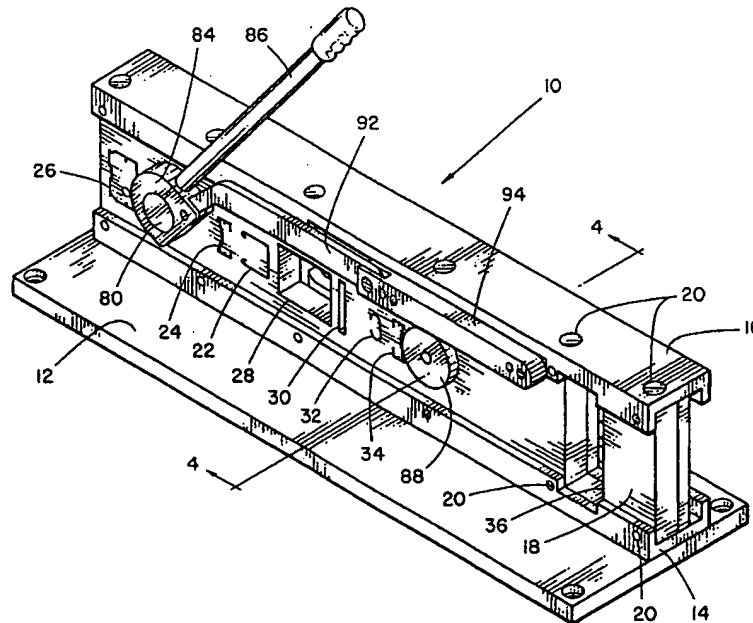
(73) SHADE-O-MATIC LIMITED, CA

(51) Int. Cl.<sup>7</sup> B23D 23/00

(30) 1999/07/23 (09/361,032) US

(54) DECOUPEUSE DE MULTI-STORES

(54) MULTI-BLIND TRIM MACHINE



(57) A multi-purpose blind cut-down apparatus for cutting a blind having a head rail and closure elements and having a blind holding plate with a blind component opening and a closure element opening for holding the head rail and closure elements in position for cutting, a closure element cutting bar moveable relative to the holding plate for cutting blind closure elements extending through the holding plate and having an opening, a cutting die plate adjacent to the cutting bar, carrying at least one cutting die for receiving the head rail and moveable relative to the holding plate.



**ABSTRACT OF THE DISCLOSURE**

10 A blind cut-down apparatus for cutting a blind having at least a head rail component, and blind material suspended from the head rail, and having a blind component holding plate having at least a head rail opening and a blind material opening for receiving respective components of a blind, and holding them in position for cutting, a blind material cutting bar moveable relative to the holding plate, and carrying material cutting means, for cutting blind material extending through the holding plate, a cutting die support adjacent to the cutting bar, having at least one cutting die for receiving the headrail, and being moveable relative to the holding plate for cutting at least one the headrail and including a movement device for moving the blind material cutting bar and the cutting die support substantially simultaneously, so as to cut the blind material and the head rail in a common plane.

**The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:**

1. A vertical blind cut-down apparatus for trim cutting a vertical blind having a horizontal head rail defining two ends, and vertical blind materials defining upper and lower ends suspended by said upper ends from the head rail, and comprising;
  - a head rail holding plate having a head rail opening formed therein for receiving said head rail therethrough;
  - a head rail cutting die and head rail die support for cutting said head rail adapted to receive said head rail extending there through, and being moveable relative to said head rail holding plate for cutting one end of said head rail;
  - a blind material holder having a blind material opening therethrough for receiving said vertical blind materials therein;
  - a blind material cutting device moveable relative to said blind material holder for cutting blind material extending through said blind material holder; and,
  - movement transmission for moving said head rail cutting die and movement transmission for moving said blind material cutting device whereby both said vertical blind materials and said horizontal head rail are cut.
2. A vertical blind cut down apparatus as claimed in Claim 1 wherein the head rail defines a transverse axis and in which the head rail opening in the holding plate is located and oriented so as to position the axis of said head rail diagonal to the longitudinal axis of the holding plate, and in which the head rail cutting die

defines a cutting opening which is similarly diagonal, the cutting die support being slidably moveable relative to the holding plate, so that the head rail is cut along a linear axis which is diagonal to the transverse axis of the head rail.

- 10
3. A vertical blind cut down apparatus as claimed in Claim 2 wherein the blind cutting device is also slidable along a linear cutting path relative to the holder plate, and in the same plane as said cutting die support, said cutting device being spaced from said cutting die support by a distance at least equal to the cutting path of said blind cutting device.
4. A vertical blind cut down apparatus as claimed in Claim 2 wherein said movement transmission comprises a rotary shaft mounted in said holder plate, and a cam mounted on said rotary shaft for moving said cutting die support a sufficient distance to sever the head rail, and including movement transmission link connecting between said rotary shaft and said blind cutting device, for moving said cutting device simultaneously with said cutting die support.
- 20
5. A vertical blind cut down apparatus as claimed in Claim 1 and including a base plate, a lower slide channel fixed to said base plate, and said head rail holding plate and said blind holder being secured to said lower guide channel, and

further including an upper guide channel secured to the upper side of said holding plate.

6. A vertical blind cut down apparatus as claimed in Claim 5 and wherein said blind cutting device is slidably received in said lower and upper guide channels and wherein said head rail cutting die is also slidably received in said lower and upper guide channels, said cutting device and said cutting die thereby sliding in a common plane and being separate from one another.

- 10 7. A vertical blind cut down apparatus as claimed in Claim 4 and wherein said rotary shaft carries a cam, mounted on said shaft and said cam being received in a opening formed in said cutting die, for moving said cutting die along a cutting die movement path, and including link arm means connecting said rotary shaft to said blind cutting device, for moving said cutting device through a blind cutting movement path, said blind cutting movement path being longer than said cutter die movement path.

- 20 8. A vertical blind cut down apparatus as claimed in Claim 7 and including an end stop member mounted adjacent to and spaced from said cutting die and said blind cutting device.

9. A vertical blind cut down apparatus as claimed in Claim 7 and wherein said cam

is located on an axis of said shaft which is offset from a rotary axis of said shaft and wherein a boss is mounted on said cam, for orbital movement, and wherein said link arm is connected to said boss.

10. A vertical blind cut down apparatus as claimed in Claim 8 and including a first end stop means for registering with said head rail cutting die, and second end stop means registering with said blind cutting device, and first adjustment means for adjusting the spacing between said first end stop and said head rail cutting die, and second adjustment means for adjusting the spacing between said second end stop and said blind cutting device.

11. A vertical blind cut down apparatus as claimed in Claim 10 and including linkage connected between said blind cutting device and said end stop means, for moving said end stop means away from said cutting die and said blind cutter device, upon movement of said movement transmission to procure a cutting stroke.

12. A method of trimming components a vertical blind having a horizontal head rail defining a first fixed end and a second trim end and vertical blind materials defining upper attachment ends and lower trim ends and said upper ends being adapted to be attached to and suspended from said head rail, and comprising the steps of;
- passing said trim end of said head rail through a holding plate having a head rail

opening;

passing said trim end of said head rail through a head rail cutting die, said head rail cutting die being movable relative to said holding plate;

moving said head rail cutting die relative to said holding plate for cutting said trim end of said head rail extending through said holding plate, whereby to cut said trim end of said head rail, while leaving said fixed end untrimmed;

passing said lower trim ends of said blind materials through a blind holder having a blind material opening;

10 passing lower trim ends of said blind materials into registration with a blind materials cutting device, said blind materials cutting device being movable relative to said holder; and,

moving said blind materials cutting device relative to said holder for cutting said trim ends of said blind materials extending through said holder, whereby to cut said lower trim end of said blind materials while leaving said upper attachment ends untrimmed.

20 13. A method of trimming components a vertical blind as claimed in claim 12 and including the steps of moving said head rail cutting die a first distance for cutting said head rail, and simultaneously moving said blind cutting device through a second distance, greater than said first distance for cutting said blind materials.

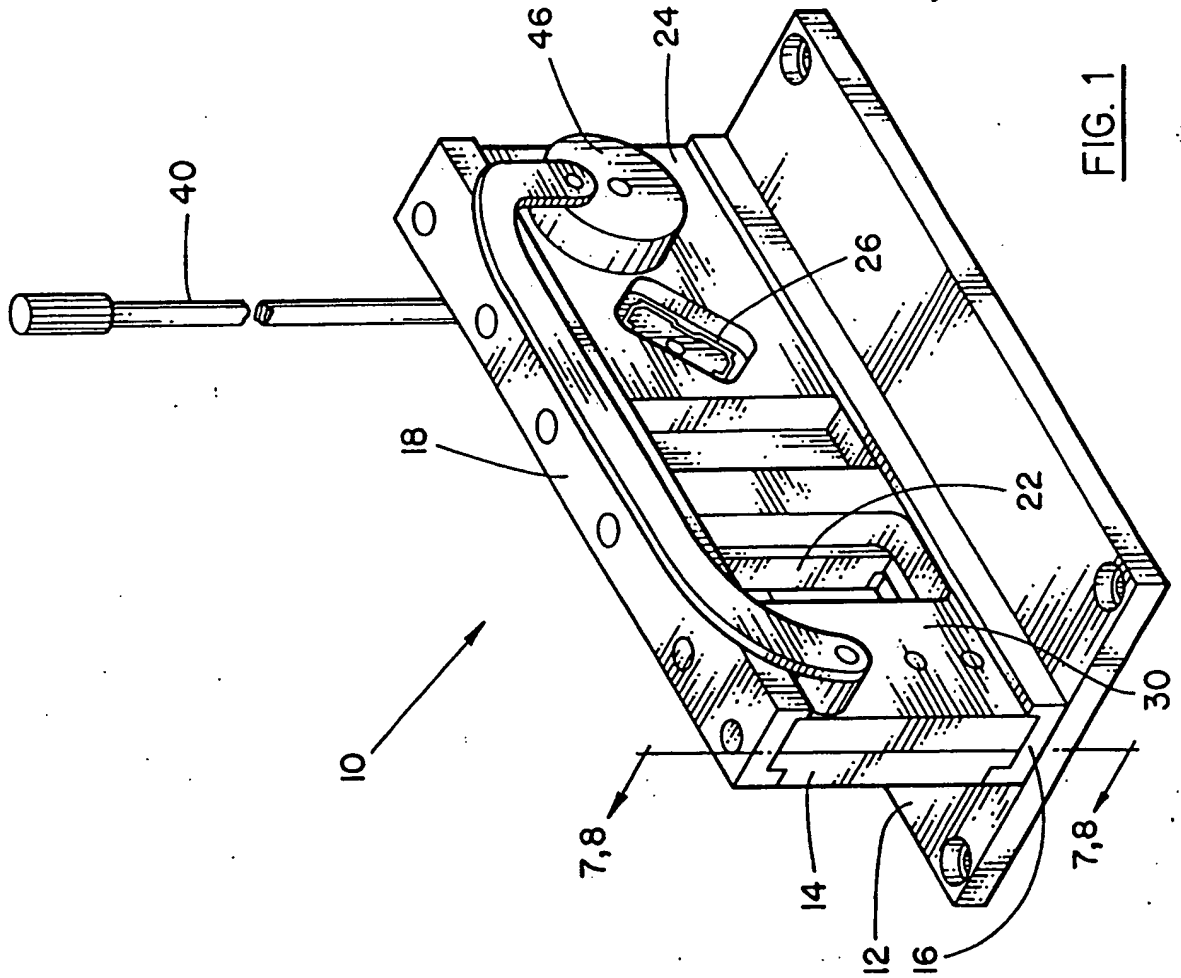
14. A method of trimming components a vertical blind as claimed in claim 13 and including the step of passing said trim end of said head rail through said cutting

die a first predetermined trim distance, and passing said blind materials through said blind holder a second predetermined trim distance wherein said first trim distance is different from said second trim distance.

15. A method of trimming components a vertical blind as claimed in claim 14 and including the step of moving said cutting die by rotary movement of a cam drive relative thereto, and moving said blind cutting device through linkage connected to said cam drive.

10

20





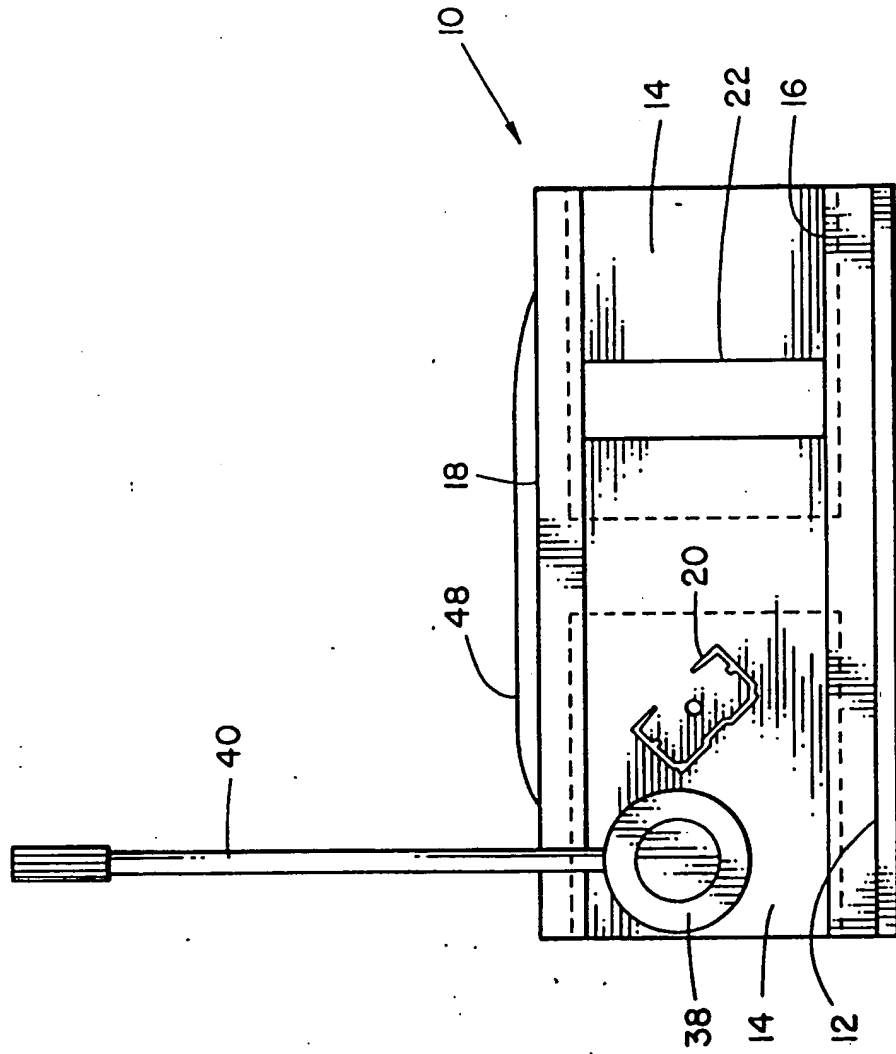


FIG. 2

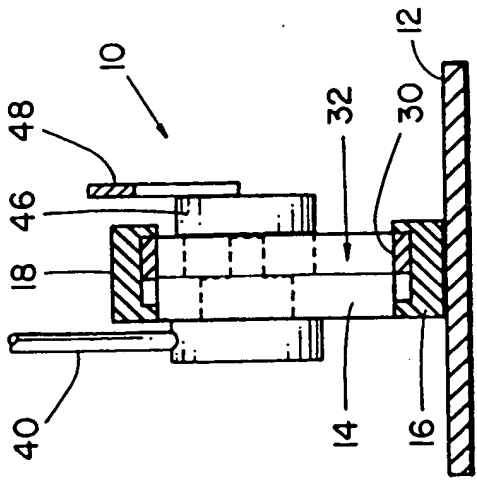


FIG. 5

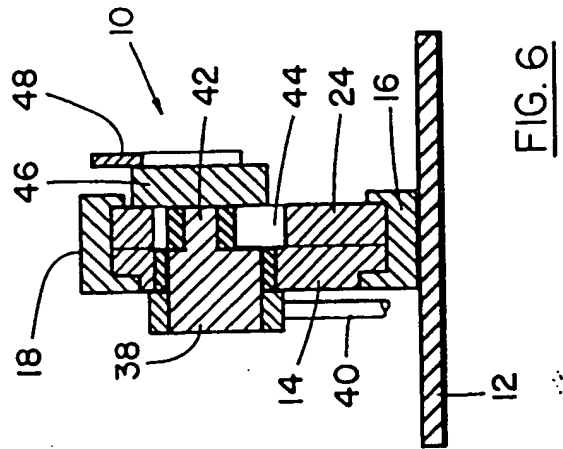


FIG. 6

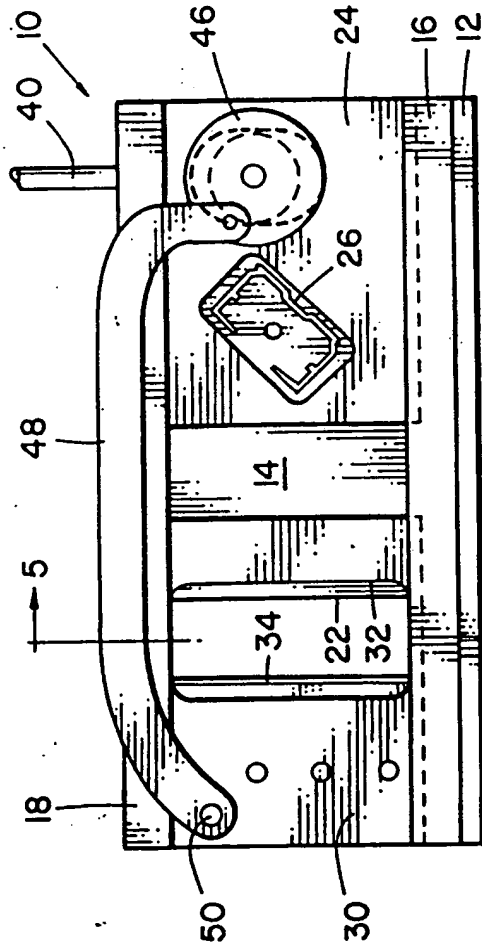
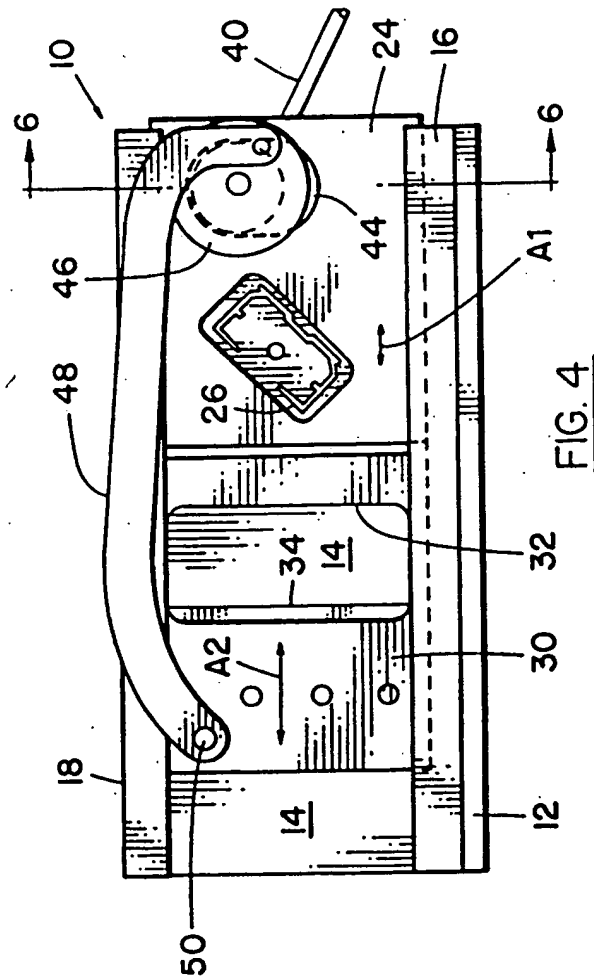


FIG. 3



**FIG. 4**

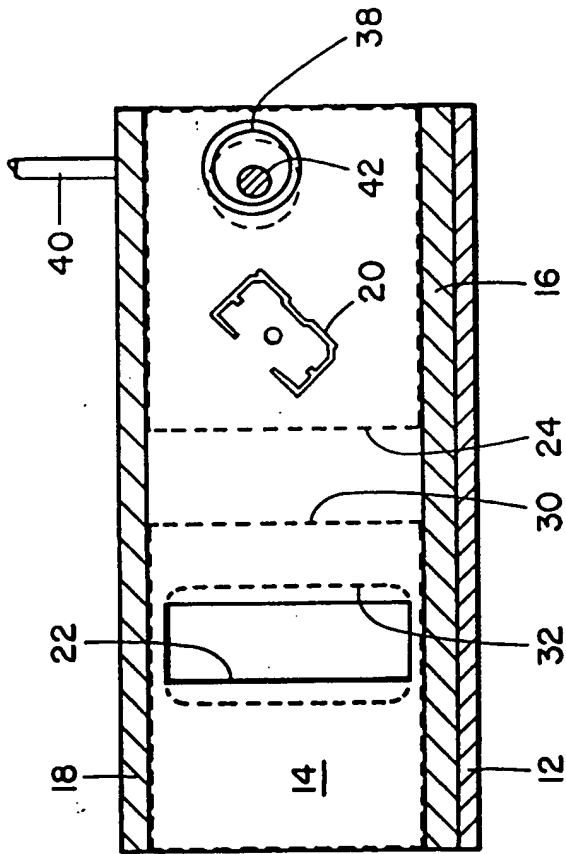


FIG. 7

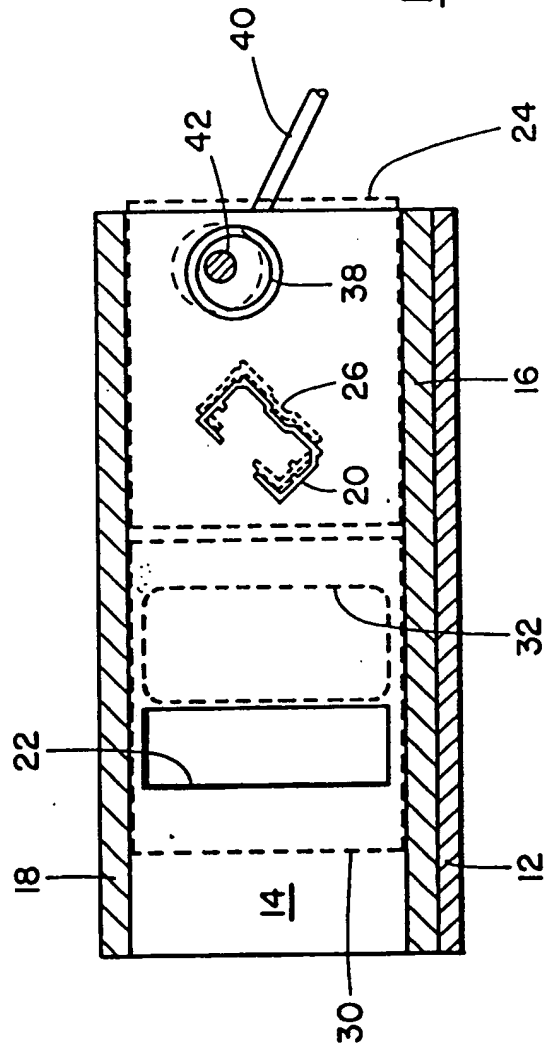


FIG. 8

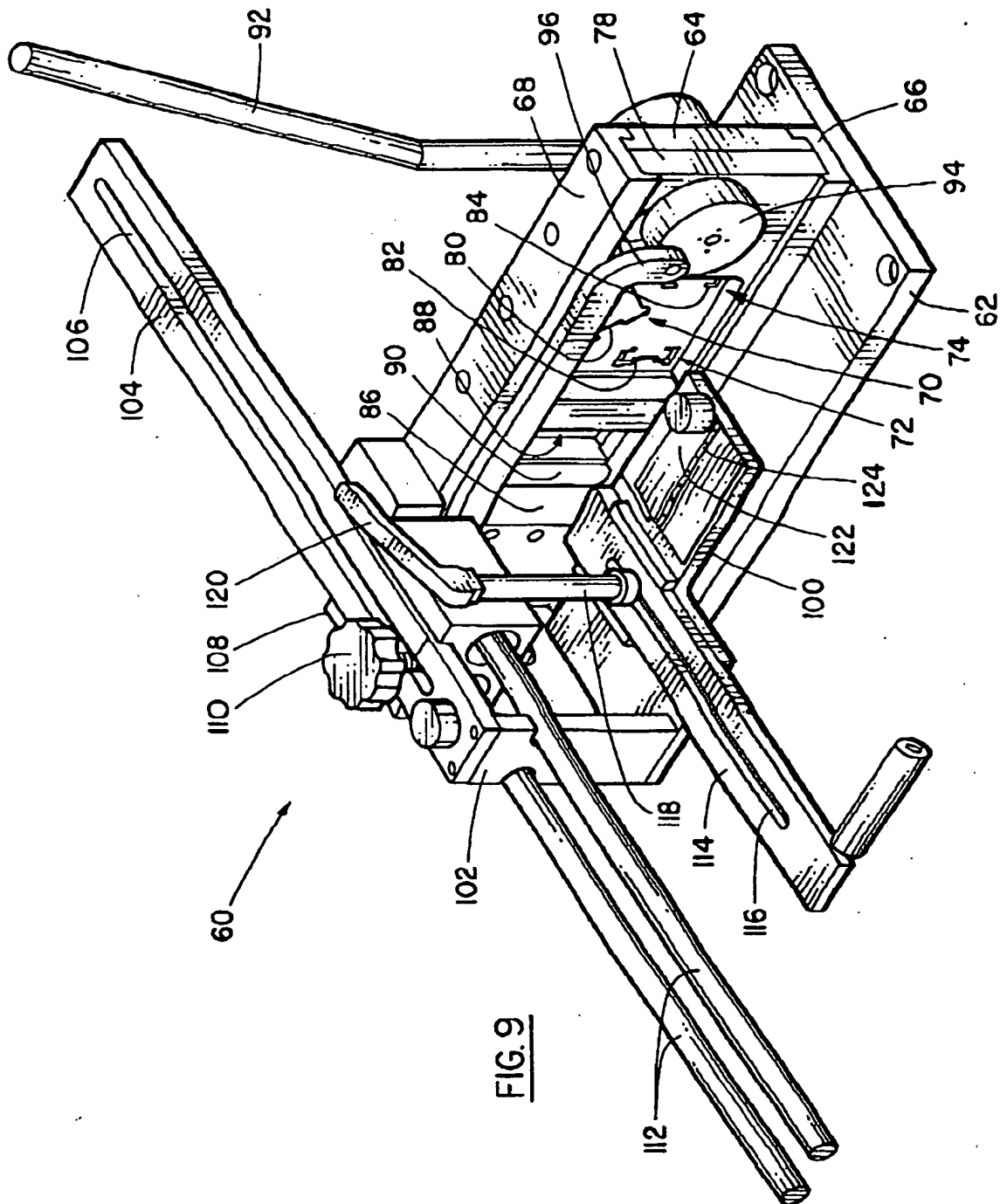
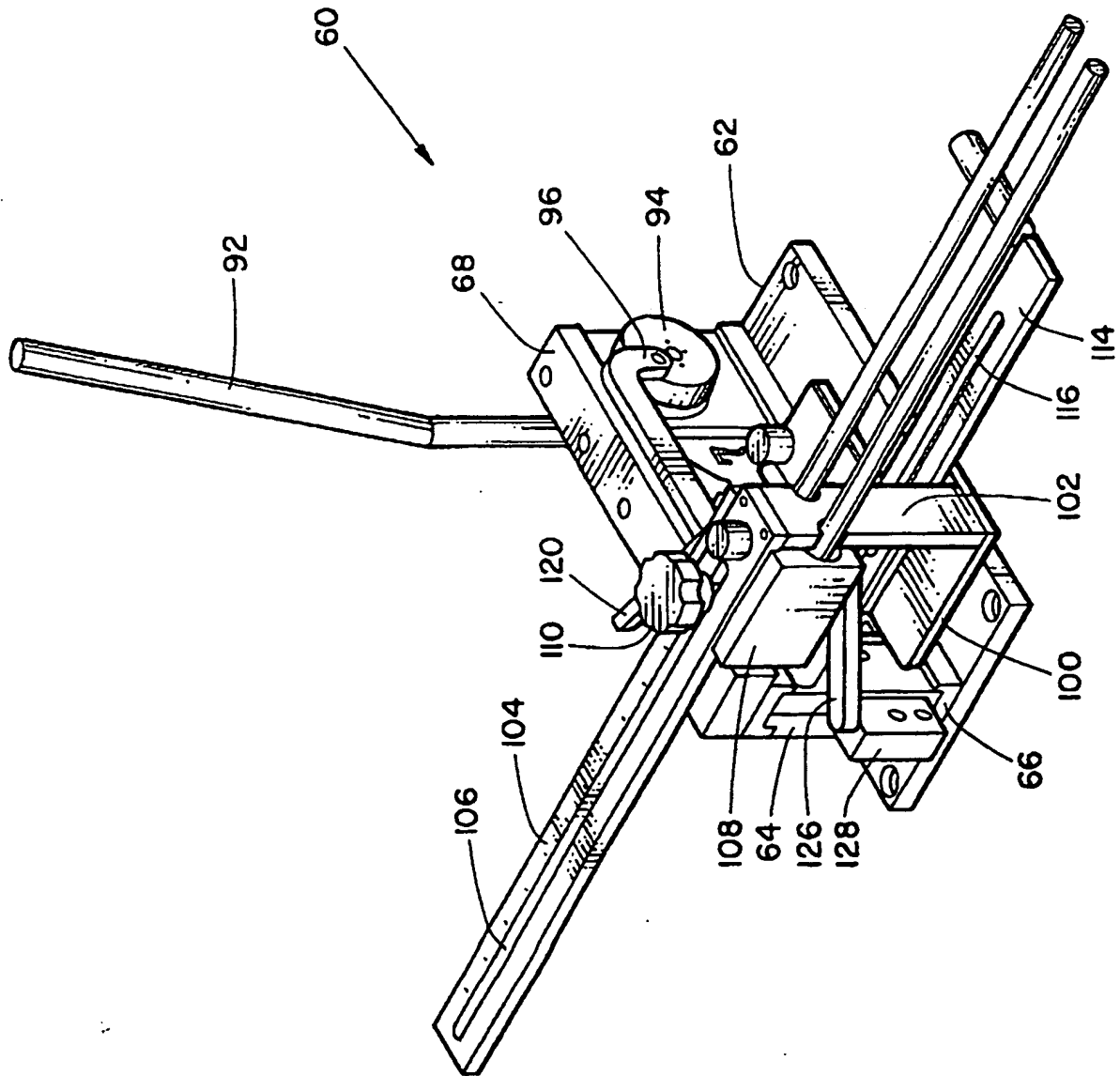


FIG. 10



**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☒ **BLACK BORDERS**

☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**

☒ **FADED TEXT OR DRAWING**

☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**

☐ **SKEWED/SLANTED IMAGES**

☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**

☐ **GRAY SCALE DOCUMENTS**

☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**

☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**

☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**